



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Huang et al  
Serial No.: 09/635,116  
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Title :

Art Unit : 2123  
Examiner : Frejd, R.

METHOD FOR SIMULATING DRILLING OF ROLLER CONE BITS AND ITS  
APPLICATION TO ROLLER CONE BIT DESIGN AND PERFORMANCE

Assistant Commissioner for Patents  
Washington, DC 20231

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Technology Center 2100

REPLY UNDER 37 CFR § 1.111

In response to the Office Action dated July 22, 2002, please amend the application as follows and reconsider the application in view of the included remarks.

IN THE CLAIMS:

Please cancel claim 22 without prejudice or disclaimer.

Please amend the claims as indicated below. A marked-up version of the claims, in accordance with 37 C.F.R. § 1.121(c)(1)(ii), is included in Appendix A.

22. (Amended) A method for optimizing a design of a roller cone drill bit, comprising:  
simulating the bit drilling through a selected earth formation;  
adjusting at least one design parameter of the bit, the at least one design parameter  
comprising a parameter selected from the group of a number of cutting elements  
on each one of a plurality of roller cones, cutting element type, and a number of  
rows of cutting elements on each one of the plurality of roller cones;  
repeating the simulating the bit drilling; and  
repeating the adjusting and simulating until an optimized design is determined.

23. (Amended) A method for optimizing a design of a roller cone drill bit, comprising:  
simulating the bit drilling through a selected earth formation;  
adjusting at least one design parameter of the bit;

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